

REMARKS

Claims 1-5, 8, 10-12, 17-22, 24, 26-30, 32, and 35-50 are pending. Claims 1, 8, 12, 17, 24, 26, 27, 32, and 35 have been amended and claims 49 and 50 have been added.

At the outset, Applicants would like to thank the Examiner for graciously extending Applicants' representative an interview to discuss the rejections in the Final Office Action. During the interview, the differences between the independent claims and the cited references, and particularly the Yagi publication, were discussed. At the conclusion of the interview, the Examiner indicated that he would postpone his decision concerning the allowability of the claims pending receipt of this paper. The differences discussed during the interview are set out in greater detail below.

I. The Rejection based on the Yagi Publication.

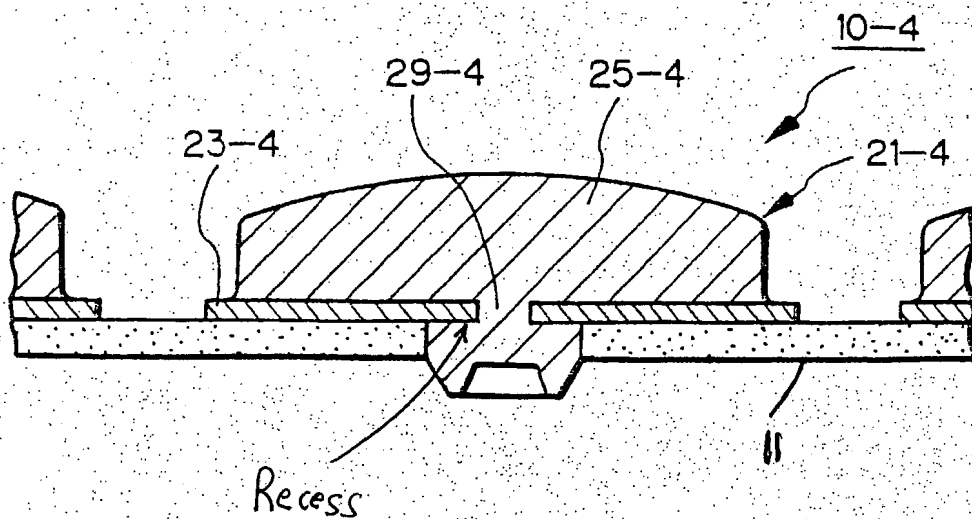
In the Final Office Action, claims 1-7, 11-15, 18, 21, 22, 29, 30, 37-39, and 43-46 were rejected under 35 USC § 102(b) for being anticipated by the Yagi publication. This rejection is traversed for the following reasons.

Claim 1 has been amended to recite three features that structurally distinguish the keypad defined therein from the Yagi patent: **(1)** "each key includes a recess for receiving a portion of the sheet near the hole," **(2)** "portions of the key located above and below the recess overlap and contact the portion of the sheet near the hole," and **(3)** "the portion of each key located below the recess defines a stopping portion for holding the key within the hole." Applicants

further note that claim 1 defines (4) the sheet as being one which includes a plurality of holes, which each hole is fastened to a respect one of the keys. The Yagi patent does not disclose these features.

Referring to Figures 1B and 9, the Examiner indicated that the sheet of claim 1 corresponds to molded elastomer sheet 11, that the “recess” correspond to hole 29-4, and that the “stopping portion” corresponds to synthetic resin film 23-4. Given this correspondence, it is clear that the Yagi keypad fails to disclose the three features of claim 1 listed above.

First, claim 1 recites that each key includes a recess for receiving a portion of the sheet near the hole. As shown in Figure 9, each key 25-4 includes a recess. (See picture below). However, that recess does not receive a portion of sheet 11 near hole 29-4 as required by the claimed invention. Rather, this recess receives a portion of the synthetic resin film 23-4, which the Examiner indicated corresponds to the stopping portion of claim 1.



Moreover, film 23-4 cannot properly qualify as the “sheet” of claim 1, because claim 1 requires its sheet to have a “plurality of holes,” each for receiving a respective one of the keys of the keypad. In contrast, film 23-4 of Yagi, is only provided for one key, i.e., it does not have a plurality of holes for receiving respective ones of the keys of the keypad.

Second, claim 1 recites that portions of the key located above and below the recess overlap and contact the portion of the sheet near the hole. These features are not included in the Yagi keypad. As shown in Figure 9, key 25-4 does not have portions above and below the recess that contact the sheet 11. Rather, the key 25-4 have portions above and below film 23-4.

Third, claim 1 recites that the portion of each key located below the recess defines a stopping portion for holding the key within the hole. As shown in Figure 9, the feature which the Examiner identified as the stopping portion, film 23-4, is not located below the recess. Rather, film 23-4 is shown as being inserted into the recess in the key.

The non-limiting embodiment of Figure 7 may be relied on to illustrate the foregoing differences. In Figure 7, each of keys 152 are coupled directly and structurally to respective holes in sheet 151. (The claimed structural features that implement this direct structural connection are recited in claim 1 - see above). However, in Yagi, keys 25-4 are first coupled to film 23-4, and then these films (which contain only one hole and therefore cannot properly be said to correspond to the “sheet” of claim 1) are coupled individually to sheet 11. The keys of Yagi, therefore, are not connected directly and structurally to sheet 11 as required by claim 1.

Moreover, the use of an adhesive 23-4 to cause keys 25-4 to be indirectly connected to sheet 11 allow the keys of Yagi to detach more easily from its keypad than the way in which the keys recited in claim 1 are fastened, i.e., attaching each key directly and structurally to the holes in the recited sheet prevent the keys of claim 1 from being easily detached. The fact that adhesive films 23-4 are not attached to one another makes the likelihood of detachment even greater, compared with the keypad of claim 1 where all the keys are directly connected to the recited sheet. These structural features further distinguish claim 1 from the Yagi publication.

In view of the foregoing structural differences, it is respectfully submitted that claim 1 and its dependent claims are allowable over Yagi.

Claim 12 recites (1) each key being inserted by coupling a recess formed along a perimeter of the key to a respective one of the holes in the sheet and (2) portions of each key above and below the recess overlap and contact a portion of sheet near a respective one of the holes. In addition to these features, claim 12 recites (4) attaching another sheet including a plurality of dome switches in alignment with respective ones of the keys, (5) forming an adhesive layer between the keys and the dome switches, the adhesive layer including a plurality of protrusions aligned with respective ones of the dome switches, each of the protrusions applying a force to close a respective one of the dome switches when one of the keys is pressed, and (6) the adhesive layer applies a force to hold the keys in the holes.

As previously discussed, the Yagi publication does not disclose these features. Accordingly, it is respectfully submitted that the Yagi publication does not anticipate claim 12 or any of its dependent claims.

II. The Rejection based on the Asada Patent.

Claims 1 and 12 were rejected under 35 USC § 102(b) for being anticipated by the Asada patent. This rejection is traversed on grounds that the Asada patent does not teach or suggest the features added by amendment to claims 1 and 12, as discussed in greater detail above.

III. The Rejections under 35 USC § 103(a).

Claims 8 and 16 were rejected for being obvious based on a Yagi-CN2400887 combination, claims 9 and 41 were rejected for being obvious in view of a Yagi-CN2400887-CN1138170 combination, claims 10, 17, 40, 42, 47, and 48 were rejected for being obvious in view of a Yagi-CN2400887-Soloway combination, claims 13, 19, and 20 were rejected for being obvious in view of a Yagi-Soloway combination, and claims 23-36 were rejected for being obvious in view of a Yagi-Park combination. All of these rejections are traversed on grounds that the secondary references do not teach or suggest the features of base claims 1 and 12 missing from the Yagi publication.

Regarding claim 42 specifically, this claim has been rewritten into independent form to recite that “each key includes a recess for receiving a portion of the sheet near the hole, portions of the key above and below the recess overlapping and contacting the portion of the sheet near the hole, and wherein the recess extends from an interior of the key to an outermost circumferential surface between the portions of the key above and below the recess, the portion of the key below the recess defining a stopping portion having a lower surface coincident with a lower surface of the key.” (Emphasis added).

The cited references do not teach or suggest these features. As shown in Figure 9, the Yagai keypad has a recess. However, this recess does not receive any portion of sheet 11. Rather, it receives the film which the Examiner identified as corresponding to the stopping portion. Such a structure, therefore, does not correspond to the structure defined in claim 42. The secondary references also fail to teach or suggest these features.

New claims 49-51 have been added to the application.

Claim 49 recites that the keypad further comprises (1) another sheet including a plurality of dome switches aligned with respective ones of the keys, (2) an adhesive layer coupled between the keys and dome switches, and (5) that the adhesive layer includes a plurality of protrusions aligned with respective ones of the dome switches, each of the protrusions applying a force to close a respective one of the dome switches when one of the keys is pressed. The Yagi publication does not disclose these additional features.

As shown in the embodiment of Figure 9, Yagi does not place a sheet over key 25-4. In Figure 1B, each of the keys has a key top 21 shaped as a dome (21-3 in Figure 8). However, each key top is individually placed over a respective one of the keys. Yagi does not disclose a sheet having a plurality of dome switches aligned with respective ones of the keys.

Moreover, without the feature of a sheet of dome switches, it logically follows that Yagi does not have an adhesive layer coupled between the keys and the dome switches.

Further, claim 49 recites that the adhesive layer includes “a plurality of protrusions aligned with respective ones of the dome switches, each of the protrusions applying a force to close a respective one of the dome switches when one of the keys is pressed.” Yagi has a protrusion aligned with each key. Each protrusion applies a force close a switch. However, as shown in Figures 1B and 9, these protrusions are not formed in an adhesive layer which coupled between the keys and the sheet of dome switches are required by claim 49. Rather, the protrusions are either integrally formed with key 25-4 (Fig. 9) or are formed on sheet 11.

Claim 50 recites that “the plurality of keys are independently fastened within respective ones of the holes without an adhesive, said keys having a substantially uniform height.” These features are not taught or suggested by the cited references.

As shown in the non-limiting embodiment corresponding to Figure 7, stopping portion 152a is locked by the sheet 151 **structurally**, e.g., by virtue of a friction fit. Keys 152 are therefore **firmly fixed** and thus are virtually undetachable from sheet 151. As a result of this friction fit, adhesives are not required to fasten keys 152 to the holes in sheet 151. Moreover,

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because adhesives are not used, there is virtually no height difference among keys 152 in the keypad, thereby ensuring that keys 152 have a **uniform height**.

In contrast, each of the Yagi keys 25-4 are mounted using a separate film 23-4 which serves as adhesive. As those skilled in the art can appreciate, the adhesive applied to each key will have different thicknesses. These different thicknesses, in turn, will cause the keys 25-4 of the Yagi keypad to not have a substantially uniform height. Applicants respectfully submit that claim 50 is allowable based on these differences and by virtue of its dependency from claim 1.

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and timely allowance of the application are respectfully requested.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

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